Fitoremediasi Logam Berat (Mn, Pb, Zn) dari Limbah Cair Laboratorium Kimia Universitas Kristen Satya Wacana oleh Kayu Apu Dadak (*Azolla pinnata* R.Br.)

Phytoremediation of Heavy Metals (Mn, Pb, Zn) from Wastewater Chemical Laboratory Satya Wacana Christian University by Water Fern (Azolla pinnata R.Br.*)*

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ABSTRACT

The objective of this study were: firstly to determine the optimum of A. pinnata population densities on the manganese (Mn), zinc (Zn) and lead (Pb) absorption, and secondly to determine the effectiveness of Mn, Zn and Pb absorption by different population densities of Water Fern (A. pinnata). Data were analysed by Randomized Completely Block Design (RCBD), 6 treatments and 4 replication. As the treatents are various percentage surface area coverage of the plastic cups by A.pinnata, which are: 0% (control, no A. pinnata), 12,5%, 25%, 37,5%, 50%, 62,5%, respectively. To test the differences between treatment means, the Honestly Significant of Differences (HSD) were used using 5% level of significant. The result of this study show that: firtsly, 62.5% population densities of A. pinnata can absorb optimally manganese (Mn), zinc (Zn), and lead (Pb), respectively. Secondly, the effectivity of A. pinnata absorp heavy metals are as follow: Mn 10,48 mg/l (95,11%); Pb 1,77 mg/l (90,90%), and Zn 7,12 ,mg/l (87,04%), respectively from wastewater Chemistry Laboratory within 4 days.

Keywords: Azolla pinnata, Heavy Metals, Phytoremediation, Wastewater